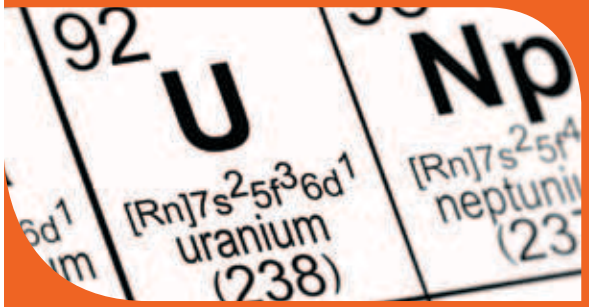


## Chemicals the CEL can detect:

*Metals*

- Arsenic
- Barium
- Berylium
- Cadmium
- Lead
- Mercury
- Thallium
- Uranium
- Mercury

*Small Molecules*

- Lewisite Metabolite
- Cyanide
- Volatile Organic Compounds
- Tetramine
- Organophosphate Nerve Agent Metabolites
- Nitrogen Mustard Metabolite
- Sulfur Mustard Metabolite
- Metabolic Toxins
- Ricinine and Abrine
- Tetranitromethane Metabolite

*Instrumentation:*

- ICP/MS (Inductively Coupled-Mass Spectrometer)
- LC/MS/MS (Liquid chromatograph/ Tandem Mass Spectrometry
- GC/MSD (Gas Chromatograph/
- Mass Spectrometer Detector)

*Types of Specimens the CEL will analyze:*

- Blood
- Urine

**For more information, please contact:**

Bureau of Laboratories
Chemical Exposure Laboratory
8231 Parklane Road
Columbia, SC 29229
(803) 896-0886
Fax: (803) 896-0983
ctu@dhec.sc.gov

**Website:**
*http://www.scdhec.gov/health/lab/ctu.htm*

**24-Hour Phone:**
(803) 767-8112

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South Carolina Department of Health and Environmental Control

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*We promote and protect the health of the public and the environment.*

CR-010569 10/2012

# Detection/Monitoring of Chemical Warfare Agents & Toxic Environmental Chemicals in Biological Specimens

*South Carolina Department of Health and Environmental Control*

Bureau of Laboratories
Chemical Exposure Laboratory

## Chemical Exposure Lab

The Chemical Exposure Laboratory (CEL) is part of the South Carolina Department of Health and Environmental Control Bureau of Laboratories. With funding from the Centers for Disease Control and Prevention Public Health Emergency Preparedness Cooperative Agreement, the CEL continues to develop/enhance laboratory capacity that provides rapid and effective analysis of clinical specimens for chemical agent exposure. By establishing an advanced, secure laboratory that can determine exposure of individuals to a chemical agent, the state will be able to address public health management of a chemical exposure incident, help guide emergency medical personnel, identify the chemical agent used, and monitor exposed individuals.

## Goals

- Expand chemical laboratory capacity to prepare and respond to chemical exposure incidents and other chemical emergencies.
- Develop emergency plans and operating procedures incorporated into SC Emergency Operations Plan that will address chemical exposure incidents.

## Benefits

- 24-hour response to a Chemical Exposure Incident
- Rapid analysis/identification of Chemical Agents
- Advanced instrumentation that provides increased sensitivity to detect chemical agents
- Partnerships with other Chemical Exposure Laboratories

## Kit Information

CEL will provide sample collection kits to hospitals and other first responders in SC. These kits will be used in the event of a chemical emergency and will contain collection and shipment instructions, collection forms, etc. Training will be provided on how and when to use the kits.

## Monitor Toxic Chemicals

The CEL instrumentation is not limited to the detection of chemical agents soley for emergencies. It can also be used to detect toxic environmental chemicals for biomonitoring purposes; however, priority will be to test samples for emergency situations

## Purpose

- Determine low-level exposure of environmental chemicals in humans
- Assess exposure for health research
- Monitor trends in exposure levels over time
- Assess the effectiveness of public health interventions to reduce exposures

## Benefits

- Allow public health officials to identify who is in danger in South Carolina
- Improve actions to protect health
- Improve decision-making about environmental chemicals